AMENDMENT TO THE CLAIMS:

This listing of claims will replace all prior listings of claims in the application:

LISTING OF CLAIMS:

Please **cancel claims 1-234** and replace with the following new claims:

1-234. (CANCELLED)

235. (CURRENTLY AMENDED) An isolated nucleic acid sequence which encodes a human hT1R2 taste receptor which when expressed in association with a nucleic acid sequence encoding the human T1R3 polypeptide contained in SEQ ID. NO: 4 or a sequence that specifically hybridizes to said human T1R3 nucleic acid sequence under stringent hybridization conditions which consist of hybridization in 50% formamide, 5 x SSC and 1% SDS, incubating at 42°C, with wash in 0.2 x SCC and 0.1% SDS at 65°C, wherein said hybridization and wash steps are each carried out for at least one minute; produces a heteromeric sweet taste receptor (hT1R2/hT1R3) that specifically responds to sweet taste stimuli, wherein said hT1R2 nucleic acid sequence is selected from the following:

(i) a nucleic acid sequence which encodes the human T1R2 polypeptide contained in SEQ ID NO: 21;

(ii) a nucleic acid sequence encodes a polypeptide having at least 95% sequence identity to the human T1R2 polypeptide contained in SEQ ID NO: 21;

~~(iii) a nucleic acid sequence which hybridizes to the human T1R2 encoding nucleic acid sequence contained in SEQ ID NO: 20 under stringent hybridization conditions which consist of hybridization in 50% formamide, 5xSSC and 1%~~

~~SDS, incubating at 42°C, with wash in 0.2 x SSC and 0.1% SDS at 65°C, wherein said hybridization and wash steps are each carried out for at least 1 minute; and~~

~~(iv) the nucleic acid sequence encoding a human T1R2 polypeptide having the sequence contained in SEQ ID NO: 20.~~

236. (PREVIOUSLY AMENDED) A human T1R2 nucleic acid sequence which encodes the human T1R2 polypeptide contained in SEQ ID NO: 21.

235. (PREVIOUSLY AMENDED) The human T1R2 nucleic acid sequence of Claim 235 which encodes a human T1R2 polypeptide which possesses at least 95% sequence identity to the human T1R2 polypeptide contained in SEQ. ID NO: 21.

237. (PREVIOUSLY AMENDED) The human T1R2 nucleic acid sequence of Claim 235 which encodes a human T1R2 polypeptide which possesses greater than 95% sequence identity to the human T1R2 polypeptide contained in SEQ ID NO: 21.

238. (PREVIOUSLY PRESENTED) The human T1R2 nucleic acid sequence of Claim 235 which encodes a human T1R2 polypeptide which possesses at least 96% sequence identity to the human T1R2 polypeptide contained in SEQ ID NO: 21.

239. (PREVIOUSLY PRESENTED) The human T1R2 nucleic acid sequence of Claim 235 which encodes a human T1R2 polypeptide which possesses at least 97% sequence identity to the human T1R2 polypeptide contained in SEQ ID NO: 21.

240. (PREVIOUSLY PRESENTED) The human T1R2 nucleic acid sequence of Claim 235 which encodes a human T1R2 polypeptide which possesses at least 98% sequence identity to the human T1R2 polypeptide contained in SEQ ID NO: 21.

241. (PREVIOUSLY PRESENTED) The human T1R2 nucleic acid sequence of Claim 235 which encodes a human T1R2 polypeptide which possesses at least 99% sequence identity to the human T1R2 polypeptide contained in SEQ ID NO: 21.

242. (PREVIOUSLY PRESENTED) The human T1R2 nucleic acid sequence of Claim 235 which encodes a human T1R2 polypeptide which possesses greater than 99% sequence identity to the human T1R2 polypeptide contained in SEQ ID NO: 21.

243. (PREVIOUSLY PRESENTED) The human T1R2 nucleic acid sequence of claim 235 which is a genomic sequence.

244. (PREVIOUSLY PRESENTED) The human T1R2 nucleic acid sequence of claim 235 which is a cDNA.

245. (PREVIOUSLY PRESENTED) The human T1R2 sequence of claims 235 which is an isolated mRNA.

246. (PREVIOUSLY PRESENTED) The human T1R2 nucleic acid sequence of claim 235 which is operably linked to a nucleic acid sequence that facilitates the transcription of said human T1R2 nucleic acid sequence.

247. (PREVIOUSLY PRESENTED) The human T1R2 nucleic acid sequence of claim 235 which is operably linked to a sequence that facilitates the surface expression of human T1R2 polypeptide by a host cell containing said nucleic acid sequence.

248. (PREVIOUSLY PRESENTED) The human T1R2 nucleic acid sequence of claim 248 wherein said sequence that facilitates surface expression is from a mammalian rhodopsin gene.

249. (PREVIOUSLY PRESENTED) The human T1R2 nucleic acid sequence of claims 235 which is contained on a nucleic acid sequence that further comprises a nucleic acid sequence which encodes a detectable marker.

250. (PREVIOUSLY PRESENTED) The human T1R2 nucleic acid sequence of claim 250 wherein said detectable marker is a green fluorescent protein.

251. (PREVIOUSLY PRESENTED) The human T1R2 nucleic acid sequence of claim 235 which is operably linked to a constitutive promoter.

252. (PREVIOUSLY PRESENTED) The human T1R2 nucleic acid sequence of claim 235 which is operably linked to a regulatable promoter.

253. (PREVIOUSLY AMENDED) A human T1R2 nucleic acid sequence according to claim 235 which is comprised on a nucleic acid construct.

254. (CANCELLED)

255. (CANCELLED)

256. (PREVIOUSLY PRESENTED) The human T1R2 nucleic acid sequence containing construct of claim 254 which is a plasmid.

257. (PREVIOUSLY PRESENTED) The human T1R2 nucleic acid sequence containing construct of claim 254 which is a viral vector.

258. (PREVIOUSLY PRESENTED) The human T1R2 nucleic acid sequence containing construct of claim 254 which comprises a gene encoding a detectable marker.

259. (PREVIOUSLY PRESENTED) The human T1R2 nucleic acid sequence containing construct of claim 254 wherein said human T1R2 nucleic acid sequence is operably linked to a promoter.

260. (PREVIOUSLY PRESENTED) The human T1R2 nucleic acid sequence containing construct of claim 260 wherein said promoter is constitutive.

261. (PREVIOUSLY PRESENTED) The human T1R2 nucleic acid sequence containing construct of claim 260 wherein said promoter is regulatable.

262. (PREVIOUSLY PRESENTED) The human T1R2 nucleic acid sequence containing construct of claim 254 wherein said human T1R2 nucleic acid sequence is operably linked to a nucleic acid sequence that encodes a polypeptide that facilitates the surface expression of said human T1R2 polypeptide in a host cell containing the vector.

263. (PREVIOUSLY PRESENTED) The human nucleic acid sequence containing construct of claim 263 wherein said polypeptide that facilitates surface expression is a mammalian rhodopsin polypeptide.

264. (PREVIOUSLY PRESENTED) The human T1R2 nucleic acid sequence containing construct of claim 264 wherein said mammalian rhodopsin is bovine rhodopsin.

265. (CANCELLED)

266. (CANCELLED)